

Re-submitting claims portion of Amendment A to SN 09/879,709

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In the claims:

Please amend the claims to the following:

1.(currently amended) A tire assembly, comprising:

a safety rim, including a one-piece ring having a generally U-shaped cross-section, an inner surface and an outer surface, and defining left and right recesses on its inner surface;

a tire mounted on said safety rim, said tire including left and right edges received in said left and right recesses, wherein a hollow space is formed between said tire and said rim; and

a plurality of inflated balls located in said hollow space, wherein each ball has a diameter and ~~that~~ spans the space between the tire and the rim; and wherein at least some of said balls are independent of said tire and rim and are free to shift circumferentially relative to said tire and rim, so that, if one of said balls is punctured and deflates, others of said balls can shift circumferentially to help fill the space created by the deflated ball in order to continue providing support to the tire.

2.(original) A tire assembly as recited in claim 1, and further comprising a main valve extending through said rim to permit gas to be inserted into and removed from said hollow space through said main valve.

3.(original) A tire assembly as recited in claim 1, wherein at least one of said inflated balls includes a valve which can be used to insert pressurized gas

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into and remove gas from the interior of said ball to control the internal pressure of said ball.

4.(original) A tire assembly as recited in claim 2, wherein at least one of said balls includes an individual valve which can be used to insert pressurized gas into and remove gas from the interior of said ball to control the internal pressure of said ball.

5.(original) A tire assembly as recited in claim 4, and further comprising a rim lock inside said rim, said rim lock being secured to said rim and pressing said left and right tire edges against said rim.

6.(currently amended) A tire assembly as recited in claim 1, wherein adjacent balls within said tire have different internal pressures, with some balls having a lower pressure and others having a substantially higher pressure, such that the lower pressure balls compress more under load than the higher pressure balls, the lower pressure balls and higher pressure balls being arranged at desired intervals in order to create an effect similar to providing knobs on the tire.

7.(original) A tire assembly as recited in claim 1, and further comprising an inflatable tube between said balls and said rim, said inflatable tube including a main valve which is accessible from outside said rim.

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8.(original) A tire assembly as recited in claim 1, wherein said balls are made of polyurethane sheets that are welded together, and wherein said balls include individual valves for inflating the balls to a predetermined pressure.

9.(currently amended) A tire assembly, comprising:

a safety rim, including a one-piece ring having an inner surface and an outer surface, and defining left and right recesses on its inner surface;

an opening through said safety rim, and a valve in said opening for controlling the flow of gas through said rim;

a tire mounted on said safety rim and defining an open space between the tire and the rim, said tire including left and right edges received in said left and right recesses, said left and right edges including left and right embedded cords; and

a plurality of gas-filled balls located between said tire and said rim, each of said balls having a thin wall, and an individual valve which controls the flow of gas through the thin wall, wherein the pressure of gas on the interior of each ball is greater than the ambient gas pressure acting on the outside of the ball in order to maintain the ball in an inflated state, wherein at least some of said balls are independent of said rim and tire and are free to shift circumferentially relative to said rim and tire; and wherein ~~the diameter of each of said balls~~ has a diameter and spans the space between the tire and the rim so that a single layer of balls fills that space.

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10.(original) A tire assembly as recited in claim 9, wherein said balls are made of welded together sheets.

11.(original) A tire assembly as recited in claim 10, wherein said sheets are made of polyurethane.

12.(currently amended) A tire assembly as recited in claim 9, wherein the adjacent balls are inflated to substantially different internal pressures with lower pressure balls and higher pressure balls arranged at desired intervals and with the lower pressure balls deforming more under pressure than the higher pressure balls, so as to provide an effect similar to having knobs on the outer surface of the tire.

13.(original) A tire assembly as recited in claim 9, and further comprising a rim lock, which presses the embedded cords against the rim.

14.(original) A tire assembly as recited in claim 9, and further comprising an inflatable tube mounted between said balls and said rim, including a main valve accessible through said rim.

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15.(currently amended) A tire assembly ~~as recited in claim 1,~~

comprising:

a rim having a generally U-shaped cross-section, an inner surface
and an outer surface, and defining left and right recesses on its inner surface;

a tire mounted on said rim, said tire including left and right edges
received in said left and right recesses, wherein a hollow space is formed
between said tire and said rim; and

a plurality of inflated balls located in said hollow space, wherein
each ball has a diameter and spans the space between the tire and the rim, and
wherein each ball can support a load in pounds that is at least as great as one
hundred times the cube of its diameter in inches without exceeding its tensile
limit and without exceeding its elastic limit, and wherein the wall thickness of said
ball is less than three percent of its diameter.

16.(currently amended) A tire assembly as recited in claim 9, ~~wherein~~
~~each of said balls has a diameter,~~ wherein each ball can support a load in
pounds that is at least as great as one hundred times the cube of its diameter in
inches without exceeding its tensile limit and without exceeding its elastic limit,
and wherein the wall thickness of said ball is less than three percent of its
diameter.

17.(original) A tire assembly as recited in claim 1, wherein said balls are
made of polyurethane sheets that are welded together.

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18.(currently amended) A tire assembly ~~as recited in claim 1,~~
comprising:
a rim having a generally U-shaped cross-section, an inner surface
and an outer surface, and defining left and right recesses on its inner surface;
a tire mounted on said rim, said tire including left and right edges
received in said left and right recesses, wherein a hollow space is formed
between said tire and said rim; and
a plurality of inflated balls located in said hollow space, wherein
each ball has a diameter and spans the space between the tire and the rim; and
wherein each of said balls comprises:
a thin wall, defining an interior surface and an exterior surface;
wherein the thickness of said thin wall is less than two percent of
the diameter, and wherein said ball can support a load in pounds that is at least
one hundred times the cube of its diameter in inches without exceeding its tensile
limit, without exceeding its elastic limit, and without expanding more than 50%
from its initial surface area.

19.(previously presented) A tire assembly as recited in claim 18, wherein
said ball includes a valve.

20.(previously presented) A tire assembly as recited in claim 19, wherein
said ball is made of polyurethane.

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21.(previously presented) A tire assembly as recited in claim 20, wherein said ball is made of welded-together sheets.

22.(new) A tire assembly, comprising:

a rim having a generally U-shaped cross-section, an inner surface and an outer surface, and defining left and right recesses on its inner surface;

a tire mounted on said rim, said tire including left and right edges received in said left and right recesses, wherein a hollow space is formed between said tire and said rim;

a plurality of inflated balls located in said hollow space, wherein each ball has a diameter and spans the space between the tire and the rim;

at least some of said balls being independent of said tire and rim and free to shift circumferentially relative to said tire and rim, so that, if one of said balls is punctured and deflates, others of said balls can shift circumferentially to help fill the space created by the deflated ball in order to continue providing support to the tire; and

wherein there is nothing more rigid than the balls that also spans the space between the rim and tire.